CLAIMS

What is claimed is:

1. A method comprising:

receiving a web page definition having a slicing tree describing an arrangement of a plurality of blocks in the web page; and

rendering the web page on a display screen according to the slicing tree.

2. A method as recited in claim 1 wherein the web page definition further includes block property data associated with one or more of the plurality of blocks.

3. A method as recited in claim 2 further comprising scaling one or more of the plurality of blocks according to a function of display screen size and the block property data.

4. A method as recited in claim 2 further comprising selecting a combination of the plurality of blocks to be adapted such that information fidelity is maximized according to the expression:

$$IF(P) = \sum_{B_i \in P} IMP_i \cdot IF_{B_i} ,$$

where IMP_i is a value representing importance of block B_i, IF_{B_i} is a value representing information fidelity of block B_i, and IF(P) is the total information fidelity of the web page.

5.   A method as recited in claim 2 wherein the block property data comprises:

an importance field;

a minimal perceptible size field;

a minimal perceptible height field;

a minimal perceptible width field;

an adjustability field; and

an alternative field.

6.   A method as recited in claim 5 further comprising determining a scaling number using a capacity based ratio algorithm.

7.   A method as recited in claim 1 further comprising summarizing one or more of the plurality of blocks.

8.   A method as recited in claim 1 further comprising associating a scaling factor with one or more of the plurality of blocks.

9. A method as recited in claim 1 further comprising generating a binary tree having a plurality of nodes, wherein each node corresponds to a combination of the plurality of blocks.

10. A method as recited in claim 9 further comprising maximizing information fidelity subject to:

$$\sum_{B_i \notin P'} size\left(ALT_i\right) + \sum_{B_i \in P'} MPS_i \leq Area \ ,$$

where ALT_i is an adapted representation of block B_i, $size(ALT_i)$ is a function that returns the size of ALT_i, MPS_i is a value representing a minimum perceptible size of block B_i, and Area is a value representing the size of the target area in which the web page is rendered.

11. A method as recited in claim 1 further comprising scaling one or more of the blocks to maximize information fidelity subject to a target area on the display screen.

12. A computer-readable medium having stored thereon computer-executable instruction for performing a method comprising:

generating a web page definition having block property data defining a minimum perceptible size of a plurality of blocks in the web page.

13. A computer-readable medium as recited in claim 12, the method further comprising generating a slicing tree defining the horizontal and vertical arrangement of the plurality of blocks in the web page.

14. A computer-readable medium as recited in claim 12 wherein the block property data further comprises an importance value, an alternative representation, an adjustment value, a minimum perceptible height value, and a minimum perceptible width value.

15. A computer-readable medium as recited in claim 12 wherein the web page definition is dynamically generated on a server side object.

16. A computer-readable medium as recited in claim 12, the method further comprising adapting one of more of the blocks to fit in a target area based on the minimum perceptible size.

17. A processor-readable medium having processor-executable instructions for performing a method comprising:

receiving a web page definition defining a plurality of blocks in a web page;

determining a maximum information fidelity associated with a combination of summarized and unsummarized blocks in the web page; and

rendering the web page with the combination of summarized and unsummarized blocks.

18. A processor-readable medium as recited in claim 17, the method further comprising:

scaling one or more of the blocks based on a slicing tree definition in the web page definition.

19. A processor-readable medium as recited in claim 17, wherein the determining a maximum information fidelity comprises:

generating a binary tree having a plurality of nodes, each node representing a combination of unsummarized blocks; and

performing a depth-first traversal of the binary tree to identify the combination of unsummarized blocks for which the information fidelity is maximized.

20.   A processor-readable medium as recited in claim 19, wherein the performing a depth-first traversal comprises sorting the plurality of blocks in order of decreasing importance.

21.   A processor-readable medium as recited in claim 19, wherein the performing a depth-first traversal comprises determining whether the combinations of unsummarized blocks are valid.

22.   A processor-readable medium as recited in claim 19, wherein the performing a depth-first traversal comprises determining whether the combinations of unsummarized blocks are feasible in accordance with block property data.

23.   A system comprising:

a browser operable to browse a web page based on a web page definition comprising a slicing tree defining an arrangement of a plurality of rectangular regions in the web page.

24.   A system as recited in claim 23, wherein the web page definition further comprises:

parametric data associated with one of the plurality of rectangular regions, the parametric data describing adaptability parameters related to the associated rectangular region.

25.   A system as recited in claim 24 further comprising:

a proxy module operable to generate an adapted web page definition based on the parametric data; and

a rendering module operable to render an adapted web page based on the adapted web page definition.

26.   A system as recited in claim 25, wherein the proxy module is further operable to determine a set of the plurality of rectangular regions to be summarized such that information fidelity of the adapted web page is maximized.

27. A system as recited in claim 26, wherein the proxy module is further operable to traverse a binary tree having nodes representing sets of unsummarized rectangular regions.

28.   A method of generating a web page having a plurality of blocks, the method comprising:

determining a first information fidelity associated with a first set of the plurality of blocks;

determining a second information fidelity related to a second set of the plurality of blocks; and

rendering the first set of blocks in a summarized fashion if the first information fidelity is greater than the second information fidelity.

29.   A method as recited in claim 28 further comprising:

arranging the plurality of blocks according to a slicing tree.

30.   A method as recited in claim 28 further comprising:

scaling a first block based on a minimum perceptible size value associated with the first block and a target display area.

31.   A method as recited in claim 28 further comprising associating an importance value to each block in the plurality of blocks.

32.   A method as recited in claim 31 wherein the importance values range from zero to one.

33.   A method as recited in claim 29 wherein the slicing tree is defined in a markup language file defining the web page.

34.   A method as recited in claim 33 wherein the markup language file further comprises block property data for each of the plurality of blocks in the web page.